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BY

THE HONOURABLE J.J. GREENE

MINISTER OF ENERGY, MINES AND RESOURCES, CANADA

TO

THE 77TH ANNUAL CONVENTION

OF

THE PACIFIC COAST GAS ASSOCIATION

PORTLAND, OREGON

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A PERSPECTIVE ON CANADA-UNITED STATES ENERGY RELATIONS

by

The Honourable J.J. Greene

I appreciate very much the opportunity to address the Pacific Coast Gas Association. It presents an occasion for a review with very involved people in the business of the supply and marketing of energy, regarding some of the essential criteria - that is essential in Canadian eyes - affecting energy relations between Canada and the United States.

Portland is one of the 'garden cities' of America, where people want the development of economic opportunities in industry in the Pacific Northwest and yet, at the same time, want to preserve the quality of their physical environment in one of the kindest and most attractive places to be in all of North America. What the people of the Pacific Northwest want for themselves, the people of both Canada and the United States want also.

I would like to review in retrospect some events in Canada-U.S. energy relations of the past few years and to comment on some present and anticipated circumstances. I think, at this point in time, it is most important to try to understand why certain developments took place and to determine what can be learned from them, as I am convinced that we stand on the threshold of some momentous developments in the energy field because of rapidly changing technology and a new concern with production, productivity as it relates to the quality of life and the total impact on our environment.

Those who represent policy makers in any country have a great responsibility to communicate with those of similar responsibilities in other countries - in energy matters, as in all matters of national interest. The day of isolated national interest is over. Today, the whole world, whatever its economic condition and regardless of the political system in operation in a given area, has one common demand schedule, one common set of economic values and preferences. The whole world has become one economy in its hopes and behaviour. The whole world, in the words of a very well-known Canadian, Marshall McLuhan, has become one "global village".

As far as Canada and the United States are concerned, I think we have no greater opportunity for improvement in economic relations than in the field of energy. Possibly the recollection of some of the events of the past pertaining to energy in our two countries, to which I will refer, together with indicated trends for the future, will serve as a spur to more effective resource utilizations while still adhering to our own national aspirations. Certainly, we have great scope for improvement in energy policy management as between our two countries.

To give a sense of immediacy to this analysis, let us look at U.S. energy supply and demand to the year 1985. According to the U.S. Bureau of Mines, your country, in the coming 15 years, will require 100 billion barrels of oil, 420 trillion cubic feet of natural

gas, and more than 10 billion tons of coal. This is more oil than was consumed in the U.S. from the beginning of the oil industry in 1859 to the end of 1967; more by 80 tcf than all the natural gas consumed in the U.S. in all of its history; and more coal than has been mined in the U.S. since World War II.

U.S. officials have expressed concern at this indicated consumption trend in that it is highly unlikely U.S. gas supply will keep up with demand in the next several years. Similarly for oil, it can be noted that in five years of the past nine years, the United States has failed to replace as much oil as it withdrew from proved reserves. For the past two years, your country has consumed and exported more coal than was mined, with the result that electrical power plants are now operated with very short supplies on hand instead of the 90-day supply that is customarily maintained. Yet the U.S. has large potential resources of coal - the equivalent of one thousand years of supply. The country has large hydrocarbon reserves in the oil shales of Colorado, Utah and Wyoming, and it is estimated that, as yet, undiscovered gas reserves amount to 1,227 trillion cubic feet, while oil resources in this category total 2 trillion barrels. It is therefore a matter of the economics and technology of the day. These potential resources are not economically available at this time, and the United States must therefore rely on its declining proved reserves, supplemented by foreign supplies.

The present energy shortage in your country is possibly best indicated by the recent announcement of the President of the United States that the Domestic Council has been asked to study the national energy situation and to develop, for his consideration, new or revised energy policies. The study is to be concerned with federal actions which may be taken to alleviate the potential acute shortage of clean fuels for this winter, and to ensure an adequate fuel supply for the next five years.

However it is to be derived, it is abundantly clear that the supply of energy to the United States market must escalate rapidly. With this in mind, one naturally turns to a consideration of the Canadian energy situation and our resource availability as opposed to yours.

At the end of 1969, the proved reserves of liquid hydrocarbons in the United States were equivalent to 9.6 years of supply at current rates of production - a decline from 13.2 years in 1960. In Canada, at the end of 1969, we had an equivalent of 22 years of current production - a level that has been maintained all through the 1960's. The U.S. reserves of natural gas were equivalent to less than 14 years of production in 1969, while Canada had reserves equivalent to 26.1 years. I mention these few key statistics only to make the point that while the U.S. appears to be in a declining reserve position relative to economic resources, Canada is holding its reserve position well and has considerable excess capacity. In fact, our crude oil

production in 1969 was only 56% of our producibility - compared with 85% in the United States. We have spare oil production capacity of about one million barrels a day. Of course, in these various supply and demand comparisons, it should be kept in mind that, because U.S. oil and gas demand is so large, we are relatively small suppliers. For instance, our current exports of oil to the U.S. market account for less than 5% of its requirements, and our natural gas, less than 3%.

Possibly of more significance than actual proved reserves in Canada today is the country's oil and gas potential reserve. It has been estimated that Canada has a potential crude oil reserve of 120 billion barrels and a potential gas reserve of 725 trillion cubic feet. This oil potential does not include the Athabasca oil sands with their reserves of 300 billion barrels.

Industry currently spends about $1.5 billion in the exploration, development and production of oil and gas in Canada, an amount that has doubled in the past decade. Estimated oil and gas exploration expenditures in Canada in the 1970's will be over $21 billion, compared with $9.6 billion in the past decade. There could be further very large amounts for northern pipelines. These estimates will provide for an on-going and ever-increasing resource development activity based on very promising indications regarding Canada's oil and gas potential. Exploration activity extends northward from the U.S. border to the Arctic Islands and includes

important new activity in the offshore, particularly off our East Coast. Canada's submerged continental margin is possibly the largest in the world, with a total area exceeding 1.5 million square miles - 40% as large as the country's entire land area. The hydrocarbon potential of Canada's submerged continental margin to a water depth of 200 metres is estimated at 56 billion barrels of oil and 336 trillion cubic feet of natural gas. About two-thirds of Canada's total continental margin is now covered by Federal oil and gas permits.

I will not go into detail regarding reserves of our other energy sources, except to say that Canada has almost one-third of the world's uranium reserves and very large coal reserves of good quality.

Crude demand in the United States in the 30-year period to the year 2000 is expected to rise from the current 5 to 15 billion barrels a year, while world demand will rise from 15 to 45 billion barrels. While the United States has consumed about 100 billion barrels of crude oil to date, it will require at least 130 billion barrels to the end of the century. These are particularly huge demands when viewed in terms of the current proved crude oil and natural gas liquid reserves reported at the end of 1969 in the United States of only 37.8 billion barrels. The challenge to develop adequate natural gas reserves is equally great when it is noted that the current demand of 24.5 trillion cubic feet will likely

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rise of some 50 trillion cubic feet in the year 2000, while current proved reserves, although large, are only the equivalent of 5 years of supply of the expected rate of demand in the year 2000.

In view of the rather astounding supply and demand indications for the future, how have we done in the past in the area of Canada-U.S. energy relations - as seen in terms of some concerns of the Canadian people?

Canada-U.S. energy relations must be considered in terms of a number of economic, political and social questions. The strong influence of American policies and actions is explained by the fact that the United States is by far our most important market and our largest source of imports and of foreign capital. But the U.S. GNP is 20 times Canada's, although its population is only 10 times. Canadians are determined to maintain a unique natural and political identity and such statistics as these point out to Canadians that they will have to plan their future wisely to achieve these natural objectives.

There is a rising feeling in our country today that because our resources and our industries are so extensively foreign controlled, we must take steps to reverse a trend to an almost complete foreign domination in the ownership of our resources. We must develop, it is felt, a greater freedom to apply Canadian solutions to Canadian problems relative to international, political and economic circumstances. Expressions of a need to develop greater autonomy are evident in proposals concerning foreign

ownership and control. Some sectors of the Canadian public are calling for policy designed to buy back control over our resources and industries that have been given up to other nationals; others propose less radical solutions related to encouraging a greater role for Canadians in future enterprises, particularly those concerned with resource development. As an example, there is a feeling that Canada should not permit decisions affecting security of oil supply to be made as a result of pressure from non-Canadians - even if such compliance would lead to larger oil markets. In any event, matters of foreign ownership, at large, are now under review by the Government and consideration relative to resource development looms large in this review.

These various expressions of concern - some extreme, others moderate - about our national identity, arise from a determination in Canada to maintain our political and economic entity distinct and different from the United States while, at the same time, striving for economic co-operation. Actually, the feeling of nationalism that accompanies this commitment is not directed against the United States or any other country, but rather is an expression of the concern to maintain a national identity and a viable economy. In fact, economic objectives are not the most important in the minds of many Canadians; some - particularly the young people - are especially concerned that economic progress, based on resource and industrial development, shall not be made at the expense of the loss of environmental control and a too rapid depletion of our resources.

Aside from the desire for greater participation of Canadians in the affairs of international companies operating in Canada, there is the concern about control over export of our resources, particularly our energy resources. The evolution of Canadian thinking in this matter of export can possibly best be explained by referring to our electrical energy export policy.

Early in the history of Canada, there was an increasing concern about the alienation of hydro-electric power resources because some of these resources were being committed to U.S. markets for very long terms, at fixed prices.

This concern, which was still rampant in some circles in Canada even in the 1950's, and even today remains in the minds of many of our citizens, stemmed from the history of export of power generated at Niagara Falls and on the St. Lawrence River in the early years of the century, under four long-term, fixed-price contracts (3 for 50 years and one for 85 years) which were devoid of any repatriation provisions.

These contracts were developed in the absence of any form of regulation of export such as now exists under the provisions of the National Energy Board Act. They were conceived at a time when Canada's industrial development was in its infancy - so much so that the development in Canada of what, in those days, must have been viewed as enormous amounts of power, would not have been economically viable without substantial export contracts.

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With the evolution of the power industry in Canada, we now have a different type of circumstance in that it is unusual for the capacity of a large electric plant to be dedicated to a single industry or for a large utility to be dependent on one source of power - thus the old concern that an export sale, once established, could not be terminated without hardship in the export market and danger of international repercussions is no longer valid. Legislation passed in 1959 established the National Energy Board, and required all exports of power to be licensed for a term not in excess of 25 years. Furthermore, it must be demonstrated that the power to be exported does not exceed the quantities remaining for the reasonably foreseeable requirements in Canada. The export price of the power must also be just and reasonable in relation to the public interest. It is now realized that international connections can offer certain economies as well as assistance in emergencies. The export of large blocks of power for limited periods may also help the early development of hydro plants when the output could not otherwise be immediately absorbed by the Canadian market. For these reasons, the Government encourages interconnection agreements and inter-ties between utilities in Canada and the U.S. where the interconnection agreements appropriatel protect the Canadian interest. This policy of reciprocal accommodation has proved beneficial to both countries.

The evolution in Canadian thinking relative to the export of electric power and the plans that have been put in operation by the two countries are pertinent to planning relative to other energy sources. If Canadians can be assured, as they have been in the allocation of electrical energy to markets, that the Canadian market interest is fully protected, that an adequate surplus remains for foreseeable Canadian requirements, and that there will be a full return for the resource exported, then there is no reason why energy policies in terms of specific energy commodities cannot be developed to the mutual benefit of both countries.

Another type of concern on the part of Canadian is the experience of building up a resource industry in response to American needs and then having the bottom fall out of the industry as a result of a unilateral decision on the part of the U.S. Government. This is well illustrated by the history of our uranium industry.

At the end of World War II, the U.S. was wholly dependent on foreign uranium, and Canada became the chief source of supply through the 1950's. In the late 1940's, the U.S. embarked on a program to stimulate the discovery of domestic uranium, and production subsequently rose to almost 18,000 tons in 1960. Canada reached its peak production of 15,900 tons of U_3O_8 in 1959, but then was entirely supplanted in the U.S. market by U.S. production. The decision of the Atomic Energy Commission, in November 1959, not to exercise its options to purchase additional uranium from Canada, marked the start

of the collapse of the Canadian uranium industry - an industry with considerable related infrastructure, that had been built up to serve the U.S. market. Notwithstanding various emergency measures that were taken in Canada, the industry has now declined to a very low level and the country has been forced, among other things, to carry on a stockpiling program to keep the industry alive. Prospects for getting this industry back on its feet are frustrated through the existence of the U.S. embargo on uranium imports. Notwithstanding the bright marketing prospects which appear for uranium in the late 1970's, our industry has suffered great loss. Here is a case of a resource industry, which was encouraged by the United States to develop at a rapid rate, and then almost destroyed by sudden decisions of the U.S. Government. The record of this industry does not present a shining example for those who argue for continental resource-sharing concepts; and, when we review the uranium situation, we are naturally somewhat reluctant to put very much confidence in continental resource proposals.

The experience in our oil relations with the United States has been of a different type - but not without its problems.

In order to illustrate the continuing attention that has been given to Canada-U.S. oil relations on both sides of the border in recent years, I would like to briefly list some of the principal events. I believe this will serve to emphasize that,

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while oil relations can, at times, be complex and difficult, both sides have generally exhibited a will to work together towards mutually satisfactory solutions. To the extent that we have failed, at times, may be more of an indication of the complexity of the problems rather than of a lack of will to attack them.

The building of the Trans Mountain Oil Pipeline in the early 1950's provided a means of getting Canadian oil into the Puget Sound refinery area in those days of the Korean emergency. Then in 1957, at the time of the first Suez crisis, the two countries again worked well together to meet emergency supply problems. the U.S. mandatory oil import program was introduced in 1959, but an "overland" exemption was provided for Canada and Mexico for crude oil moving into Districts I - IV.

To accommodate the U.S. import program, Canadian oil exports were voluntarily restrained between 1962 and 1965. In 1966, 1967 and 1968, there were producing and transportation bottlenecks in the United States and, consequently, Canada was allowed to fill residual U.S. requirements in the northern States. While this resulted in increased export opportunities for the Canadian industry, it is, at the same time, the type of circumstance in which Canadian oil supplies are used in a surge tank operation - available when drastically needed, but cut back otherwise. No rational industry planning can be done on that basis.

In September 1967, Canada undertook, among other things, to ensure, by means short of imposing formal export control, that its exports of refinery feedstocks to Districts I - IV would remain within certain limits, and that no sales would be made in Chicago prior to 1970 to avoid disruption of the U.S. market. However, because of the strong demand for Canadian crude on the part of the U.S. refiners, imports from Canada rose above levels acceptable to the U.S. Government which, in March 1970, imposed a 395,000 barrel a day mandatory import control for Districts I - IV - down from some 600,000 barrels a day previously. This is where we are today. Not a very favourable position from the Canadian point of view.

These references to events in the history of our electric power, uranium and oil industries, pertaining to relations with the United States, indicate the types of problems involved and how some of them were resolved, while others remain to be worked out.

It is to the mutual benefit of our two countries that we strive for an equitable balance in our respective vital concerns of sovereignty and trade. For instance, economic supply of Canadian oil and gas to U.S. markets under appropriate management circumstances contribute to a progressive and prosperous Canada and, from the U.S. viewpoint, to the presence of a stable and co-operative neighbour.

Canadians are determined to move their economy from a major emphasis on raw material production into the next stage of industrialization, wherein there will be more specialization and

greater industrial development based on our indigenous resources. We must begin to base more of our economic growth, not on the sale of raw products, but on the upgrading of them for world markets. This is very pertinent to energy considerations, because as we move into the new industrial age of materials, there will be increasing need for products based on hydrocarbons. In other words, we must develop petrochemical and related products within our country and gain access for these products to the large consumer markets of the United States and the world. Thus, when we talk about Canada-United States trade in energy resources, Canadians envisage a full right to compete in the United States market on a fully competitive basis for the sale of some of the more sophisticated petrochemical products of our energy source materials.

While promoting the fullest possible economic development of our energy resources, Canadians want, at the same time, to be assured that adequate supplies will be at hand for the traditional uses of today and the new uses of tomorrow. This is particularly so in relation to natural gas.

One of the most important matters in current Canada-U.S. energy relations is the application by several U.S. companies for Canadian natural gas, now under consideration by the Canadian Government. These applications have been under careful examination because we must ensure that the national interest is fully protected before granting approval for export of the large volumes involved.

Great care is taken in the administration of Canada's gas marketing policy to ensure that before approval is given to any gas export application, future domestic requirements are fully protected and, at the same time, that adequate gas will be available for whatever export commitment is undertaken. Furthermore, careful attention is given to border prices of proposed export contracts to ensure an appropriate return for the sale of the gas specified in a contract.

The National Energy Board formula is that protection of Canadian gas requirements is maintained at an adequate level if an amount of reserves equal to 25 times the estimated requirement level for the fourth year is set aside. The multiplier of 25 provides suitable protection, having regard to the historic discovery rate. Further precautions are also taken, including those necessary to ensure that the annual growth of reserves justifies confidence in a continuing satisfactory reserve build-up.

Through such a procedure, there is thus a continuing review of the relationship between requirements and supply to thereby protect Canadian requirements, guarantee export licenses already granted and ensure that industry can perform on the new export license. At the same time, the procedure provides an incentive to further search by keeping supply availability in good balance with future requirements, thereby not locking in excess developed reserves which would tend to discourage exploration activity and seriously reduce the economic return. There is, therefore, full consideration

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of all factors related to prices, reserves, discovery trends and surplus, as well as of all committed and foreseeable requirements in the administration of Canada's gas policy.

In view of the imminence of a decision on the current natural gas export applications, I think it may be timely to refer to past Canadian experience relative to gas exports in order to highlight some of the more significant events and principles that characterize our natural gas export policy. It is an evolving policy, the development of which derives considerably from an empirical approach to new problems as they arise.

Initially, there had been a reluctance to export, and this feeling is still strong in some quarters in Canada, particularly because gas is a non-renewable resource; hence, the safeguards relative to future domestic requirements to which I have referred. Notwithstanding, there is further reluctance to export because natural gas is a raw product and there is a conviction throughout Canada that we are not paying enough attention to the further processing of our resources. We have also had to give a great deal of attention to the matter of price to be sure that it will bring an adequate return throughout the customary long term of natural gas export contracts. Further, there is the special problem of terminating an export service at the end of a contract. This right must be reserved by the exporting country, which may then want to use the gas itself or re-negotiate the price; hence the importing

country must take the responsibility of finding other sources of energy for a given area that may have been depending on the gas supply established some 25 years before. Confidence is now provided to regulatory agencies on both sides of the border in this matter of terminating contracts, because of the natural gas grid systems being progressively developed in the United States.

Natural gas policy that had evolved in the early years to deal with such problems was embodied in the National Energy Board Act of 1959 and the Board has the responsibility for the granting or withholding, after public hearing, of licenses to export gas and certificates to construct the requisite transmission lines. The Board's decisions are subject to Government approval. Over the years, the Board's decisions, with the accompanying reasons, have provided some guidance to industry in its planning.

The legislation under which the Board acts places the onus of proof on the applicant in establishing that the gas to be exported is surplus to Canadian requirements, and that the price to be received is just and reasonable.

As to precautions on export price, the Board has employed the following criteria: comparison with the prices of similar sales at adjacent points in Canada; comparison with the price of similar exports; comparison with the cost of similar purchases from alternative sources in the United States; and excess of the price over the cost. In any event, the border price can be no lower than the cost of service. An indication of the ceiling is the level of competitive prices of energy from alternative sources at the point of destination.

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Looking to the future, I anticipate the construction of a major gas pipeline from Alaska and Northern Canada to markets in both of our countries during the company decade. To this end the Government of Canada recently published guidelines relative to northern pipelines within our territory. We look forward to co-operation with the United States in opening up the continent's northern gas resources, and the transportation of this gas to our major markets. This will mark the beginning of a new era in pipelining which will challange our engineering ingenuity and call for careful construction and operation practice to protect the delicate ecology of the North and to recognize the traditional rights of the native peoples of the north.

At the outset, I stated a conviction that there was much to learn from a review of past developments in Canada-U.S. energy relations. A fuller understanding of why certain events occurred in the past could lead to a clearer perception of what to do in relation to expected trends of the future. Possibly I could conclude with an observation which I feel sums up Canadian concern.

The Canadian people must be assured that their foreseeable energy resource requirements are safeguarded and the Government of Canada has effective means of meeting this national responsibility. A related concern is to maximize the economic development of our energy resources through market expansion. The domestic market can be predicted, but there is considerable difficulty, at times, in predicting the export market, particularly because of changing U.S. policies for oil and uranium. Given some assurance as to

export growth, and thus a measure of lead time, a more efficient resource development program for oil and gas can be pursued to the benefit of both countries. In this way we can play an effective role in helping the United States to meet its major requirement for more natural gas.

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